

**REMARKS**

**I. INTRODUCTION**

Paragraph [0039] of the Substitute Specification has been amended above to correct a minor informality. Claims 1-16 were previously cancelled, without prejudice. Claims 17-28 and 34-38 have been previously withdrawn pursuant to a Restriction Requirement. Applicants reserve the right to pursue the subject matter of cancelled and/or withdrawn claims in one or more continuing applications. Accordingly, claims 29-33 are under consideration in the present application.

Provided above, please find an amendment to the Substitute Specification. Applicants respectfully submit that no new matter has been added.

**II. OBJECTION TO SPECIFICATION SHOULD BE WITHDRAWN**

The Examiner objects to the specification because on page 13, line 21, projections are referenced by numeral 3 instead of 13. As the Examiner shall ascertain, the Substitute Specification has been amended herein above to correct this informality.

Accordingly, Applicants respectfully request that the objection to the Specification be withdrawn.

**III. REJECTIONS UNDER 35 U.S.C. § 103(a) SHOULD BE WITHDRAWN**

Claims 29, 32 and 33 stand rejected under 35 U.S.C. §103(a) as being allegedly unpatentable over U.S. Patent No. 6,539,765 to Gates (hereinafter "Gates"), in view of Japanese Patent No. 06-210370 to Tamada et al. (hereinafter "Tamada"). Claims 29, 31 and 32 stand rejected under 35 U.S.C. §103(a) as allegedly being allegedly

unpatentable over Japanese Patent No. 2002-282951 by Sudo et al. (hereinafter “Sudo”), in view of Tamada. Claim 30 stands rejected under 35 U.S.C. §103(a) as being allegedly unpatentable over either Gates or Sudo in view of Tamada, and further in view of U.S. Patent No. 4,945,381 to Yamagata et al. (hereinafter “Yamagata”).

Applicants respectfully assert that neither Gates nor Sudo, even if combined with Tamada and/or Yamagata, teach or suggest the subject matter of independent claim 29, and the claims that depend therefrom, at least for the reasons as set forth below.

“To reject claims in an application under Section 103, an examiner must show an un rebutted *prima facie* case of obviousness.” *In re Rouffet*, 47 U.S.P.Q.2d 1453, 1455 (Fed. Cir. 1998). The Supreme Court in *Graham v. John Deere*, 383 U.S. 1, 148 USPQ 459 (1966), stated:

Under Section 103, the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background, the obviousness or nonobviousness of the subject matter is determined.

Indeed, to sustain a rejection under 35 U.S.C. § 103(a), there must be some teaching, other than the instant application, to alter the prior art to arrive at the claimed invention. “The problem confronted by the inventor must be considered in determining whether it would have been obvious to combine the references in order to solve the problem.” *Diversitech Corp. v. Century Steps, Inc.*, 850 F.2d 675, 679 (Fed. Cir. 1998).

The objective standard for determining obviousness under 35 U.S.C. § 103, as set forth in *Graham v. John Deere, Co.*, 383 U.S. 1 (1966), requires a factual determination to ascertain: (1) the scope and content of the prior art; (2) the level of ordinary skill in the art; and (3) the differences between the claimed subject matter and

the prior art. Based on these factual inquiries, it must then be determined, as a matter of law, whether or not the claimed subject matter as a whole would have been obvious to one of ordinary skill in the art at the time the alleged invention was made. *Graham*, 383 U.S. at 17. Courts have held that there must be some suggestion, motivation or teaching of the desirability of making the combination claimed by the applicant (the "TSM test"). See *In re Beattie*, 974 F.2d 1309, 1311-12 (Fed. Cir. 1992). This suggestion or motivation may be derived from the prior art itself, including references or disclosures that are known to be of special interest or importance in the field, or from the nature of the problem to be solved. *Pro-Mold & Tool Co. v. Great Lakes Plastics, Inc.*, 75 F.3d 1568, 1573 (Fed. Cir. 1996).

Although the Supreme Court criticized the Federal Circuit's application of the TSM test, see *KSR International Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1741, (2007) the Court also indicated that the TSM test is not inconsistent with the *Graham* analysis recited in the *Graham v. John Deere* decision. *Id.*; see *In re Translogic Technology, Inc.*, No. 2006-1192, 2007 U.S. App. LEXIS 23969, \*21 (October 12, 2007). Further, the Court underscored that "it can be important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does." *KSR*, 127 S. Ct. at 1741. Under the precedent established in *KSR*, however, the presence or absence of a teaching, suggestion, or motivation to make the claimed invention is merely one factor that may be weighed during the obviousness determination. *Id.* Accordingly, the TSM test should be applied from the perspective of a person of ordinary skill in the art and not the patentee, but that person is creative and not an automaton, constrained by a rigid framework. *Id.* at 1742.

However, "the reference[s] must be viewed without the benefit of hindsight afforded to the disclosure." *In re Paulsen*, 30 F.3d 1475, 1482 (Fed. Cir. 1994).

The prior art cited in an obviousness determination should create a reasonable expectation, but not an absolute prediction, of success in producing the claimed invention. *In re O'Farrell*, 853 F.2d 894, 903-04 (Fed. Cir. 1988). Both the suggestion and the expectation of success must be in the prior art, not in applicant's disclosure. *Amgen, Inc. v. Chugai Pharmaceutical Co., Ltd.*, 927 F.2d 1200, 1207 (Fed. Cir. 1991) (citing *In re Dow Chem. Co.*, 837 F.2d 469, 473 (Fed. Cir. 1988)). Further, the implicit and inherent teachings of a prior art reference may be considered under a Section 103 analysis. See *In re Napier*, 55 F.3d 610, 613 (Fed. Cir. 1995).

Secondary considerations such as commercial success, long-felt but unsolved needs, failure of others, and unexpected results, if present, can also be considered. *Stratoflex, Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 1538-39 (Fed. Cir. 1983). Although these factors can be considered, they do not control the obviousness conclusion. *Newell Cos. v. Kenney Mfg. Co.*, 864 F.2d 757, 768 (Fed. Cir. 1988).

To establish obviousness, the prior art references must be evaluated as a whole for what they fairly teach and neither the references' general nor specific teachings may be ignored. *Application of Lundsford*, 357 F.2d 385, 389-90 (CCPA 1966). A reference must be considered for all that it teaches, not just what purportedly points toward the invention but also that which teaches away from the invention. *Ashland Oil, Inc. v. Delta Resins & Refractories*, 776 F.2d 281, 296 (Fed. Cir. 1985).

Independent claim 29 recites, *inter alia*, an apparatus for press molding a heated metal plate material, comprising a supply piping arrangement provided in a mold and

configured to interact with a cooling medium, ejection holes providing in a molding surface of the mold and configured to interact with the cooling medium, the supply piping and the ejection holes communicating with one another, and a plurality of projections provided on at least one portion of part of the molding surface of the mold and having an area ratio between about 1% and 90%, a diameter or circumcircle diameter between about 10  $\mu$ m and 5 mm, and a height between about 5  $\mu$ m and 1 mm. For example, such apparatus facilitates, e.g., an acceleration of cooling of a molded metal plate material and suppress a heat storage into a mold in order to improve productivity. (See Substitute Specification, paragraph [0008]).

In the Office Action, the Examiner admits that Gates or Sudo do not teach such recitation of a plurality of projections provided on at least one portion of part of the molding surface of the mold and having an area ratio between about 1% and 90%, a diameter or circumcircle diameter between about 10  $\mu$ m and 5 mm, and a height between about 5  $\mu$ m and 1 mm, as explicitly recited in amended independent claim 29. However, the Examiner alleges that Tamada cures the deficiencies of Gates and Sudo to teach or suggest such recited subject matter. (See Office Action, p. 3, lines 4-14, and p. 4, lines 7-17, citing paragraph [0013] of Tamada for teaching or suggesting the relevant recitations of independent claim 29).

Tamada describes a press-forming public-funds type, and relates to the press-forming public-funds type especially used for press forming, such as sheet metal for cars. (See Tamada, paragraph [0001]). Tamada further describes a material which has a board thickness of 0.7 mm and surface roughness SRa0.86, and a low relative roughness laser dull material with a surface roughness SRa0.64. (See *id.*, para. [0013]).

Tamada, however, does not teach or suggest a plurality of projections provided on a portion of part of a molding surface, much less such projections having the recited area ratio, diameter or circumcircle diameter, or height, as explicitly recited in independent claim 29. Specifically, Tamada does not teach or suggest a plurality of projections having an area ratio between about 1% and 90%, a diameter or circumcircle diameter between about 10  $\mu$ m and 5 mm, and a height between about 5  $\mu$ m and 1 mm, as explicitly recited in independent claim 29.

Yamagata does not cure the deficiencies of Gates, Sudo or Tamada as described above, and the Examiner does not contend that it does. Thus, for at least the reasons provided herein above, it is clear that the alleged combination of Gates and Tamada, or Sudo and Tamada, does not teach or suggest the recited subject matter of independent claim 29.

Regarding the 35 U.S.C. § 103(a) rejections of claims 30-33, Applicant respectfully asserts that the prior art relied on by the Examiner fails to teach or suggest the explicit recitations of independent claim 29. Accordingly, claims 30-33, which depend from such independent claim 29, are also believed to be patentable over such prior art least because the prior art fails to teach or suggest the recitations of independent claim 29.

Further, claim 31 depends from independent claim 29, and further recites that at least one of the ejection holes is provided solely in a portion of the molding surface of the mold where a heat transfer coefficient between the metal plate material and the mold is at most about 2000 W/m<sup>2</sup>K.

The Examiner alleges that Sudo teaches or suggests the recited subject matter of claim 31, and points to paragraph [0015] of Sudo for supporting such contention. However, Sudo, in paragraph [0015] thereof, only describes a ratio of a flute width with respect to the width of a groove formation as 0.15-0.75. Indeed, Sudo does not teach or suggest a heat transfer coefficient between a metal plate material and the mold, much less that such heat transfer coefficient is at most about 2000 W/m<sup>2</sup>K, as explicitly recited in claim 31.

Therefore, for at least the reasons as presented herein above, Applicants respectfully request withdrawal of the 35 U.S.C. § 103(a) rejection of claims 29, 32 and 33 as being allegedly unpatentable over Gates in view of Tamada, the 35 U.S.C. § 103(a) rejection of claims 29, 31 and 32 as being allegedly unpatentable over Sudo in view of Tamada, and the 35 U.S.C. § 103(a) rejection of claim 30 as being allegedly unpatentable over either Gates or Sudo in view of Tamada, and further in view of Yamagata.

IV. CONCLUSION

In light of the foregoing, Applicants respectfully submit that the pending claims are in condition for allowance. Prompt reconsideration and allowance of the present application are therefore earnestly solicited. The Examiner is invited to contact the undersigned to expedite the prosecution of this application if any issues remain outstanding.

Respectfully submitted,

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